

LISTING OF CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1. (Currently Amended) An objective lens drive apparatus configured to be used in an optical pickup, comprising:

a magnetic circuit comprising first and second magnets separated from one another by a single gap, the first and second magnets providing a magnetic field relative to said single gap;

a coil unit comprising a single laminate structure disposed for operative interaction with the magnetic field of the single gap, said single laminate structure including [[a]] at least one focus coil configured to provide focusing movement of the single laminate structure due to current in the at least one focus coil interacting with the magnetic field of said single gap, [[a]] at least one tracking coil configured to provide tracking movement of the single laminate structure different from the focusing movement due to current in the at least one tracking coil interacting with the magnetic field of said single gap, and [[a]] at least one tilt coil configured to provide inclination adjusting tilting movement of the single laminate structure different from the focusing movement and the tracking movement due to current in the at least one tilt coil interacting with the magnetic field of said single[[,]] ~~the laminate structure disposed within the gap;~~ and

an objective lens connected to the single laminate structure such that movement of the laminate structure results in a corresponding movement of the objective lens, the objective lens disposed outside of the single gap in which the laminate structure is disposed.

Claim 2. (Previously Presented) The objective lens drive apparatus according to claim 1, wherein the magnetic circuit comprises pairs of magnets.

Claim 3. (Currently Amended) The objective lens drive apparatus according to claim 1, wherein the coil unit single laminate structure comprises a plurality of printed circuit boards, and the at least one focus coil, the at least one tracking coil, and the at least one tilt coil are separately disposed on the printed circuit boards.

Claim 4. (Currently Amended) The objective lens drive apparatus according to claim 1, wherein the coil unit single laminate structure comprises a plurality of first and second printed boards, and the at least one focus coil and the at least one tracking coil are disposed on the first printed ~~board~~ boards and the at least one tilt coil is disposed on the second printed ~~board~~ boards.

Claim 5. (Currently Amended) The objective lens drive apparatus according to claim 1, wherein the coil unit single laminate structure comprises a plurality of first and second printed boards, and the at least one focus coil and the at least one tilt coil are mounted on the first printed ~~board~~ boards and the at least one tracking coil is mounted on the second printed ~~board~~ boards.

Claim 6. (Currently Amended) The objective lens drive apparatus according to claim 1, wherein the coil unit comprises only one focus coil, an even number of tracking coils, and two tilt coils, and wherein the magnets are configured to be magnetized in two polarities in a focus adjustment direction.

Claim 7. (Currently Amended) The objective lens drive apparatus according to claim 1, wherein the coil unit comprises an even number of focus coils, only one tracking coil, and two tilt coils, and wherein the magnets are configured to be magnetized in two polarities in a tracking adjustment direction.

Claims 8-21 (Canceled).

Claim 22. (Currently Amended) An objective lens drive apparatus configured to be used in an optical pickup to detect the inclination of an optical disk to adjust the inclination of a lens in accordance with an inclination signal of the optical disk, comprising:

a magnetic circuit comprising first and second magnets separated from one another by a gap the first and second magnets providing a magnetic field relative to said gap;

a coil unit comprising a laminate structure disposed in the gap including a plurality of focus coils configured to provide focus adjusting movements of the laminate structure due to current in the plurality of focus coils interacting with the magnetic field of said gap and at least one tracking coil configured to provide tracking adjusting movements of the laminate structure different from the focusing adjustment movements due to current in the at least one tracking coil interacting with the magnetic field of said ~~and a tilt coil, the laminate structure disposed with the gap;~~ and

an objective lens connected to the laminate structure such that movement of the laminate structure results in a corresponding movement of the objective lens, the objective lens disposed outside of the gap in which the laminate structure is disposed,

wherein ~~a focus serve~~ the focus adjusting movements of the objective lens connected to the laminate structure is configured to be executed by supplying currents respectively to a plurality of the focus coils due responsive to a sum of drive forces generated in relative to the

plurality of focus coils in response to respective currents supplied to the plurality of focus coils interacting with the magnetic field of the gap; and

wherein an inclination adjustment of the objective lens is configured to be executed by generating a moment around a center of gravity of a movable part due to a difference between the drive forces to provide inclination adjusting movements different from the focus adjusting movements and the tracking adjusting movements.

Claim 23. (Previously Presented) The objective lens drive apparatus according to claim 22, wherein the magnetic circuit comprises pairs of magnets.

Claim 24. (Currently Amended) The objective lens drive apparatus according to claim 22, wherein the coil unit comprises a plurality of printed circuit boards, and the plurality of focus coils and the at least one tracking coil are separately disposed on the printed circuit boards.

Claim 25. (Currently Amended) The objective lens drive apparatus according to claim 22, wherein the coil unit comprises a printed circuit board, and the plurality of focus coils and the at least one tracking coil are disposed on the printed circuit board.

Claim 26. (Previously Presented) The objective lens drive apparatus according to claim 22, wherein the coil unit comprises an even number of focus coils and only one tracking coil and the magnets are configured to be magnetized in two polarities in a tracking direction.

Claim 27. (Currently Amended) An objective lens drive apparatus configured to be used in an optical pickup to detect the inclination of an optical disk to adjust the inclination of a lens in accordance with an inclination signal of the optical disk, comprising

a magnetic circuit comprising first and second magnets separated from one another by a gap the first and second magnets providing a magnetic field relative to said gap;

a coil unit comprising a laminate structure disposed in the gap including [[a]] at least one focus coil configured to provide focus adjusting movements of the laminate structure due to current in the at least one focus coil interacting with the magnetic field of said gap, a plurality of tracking coil coils configured to provide tracking adjusting movements of the laminate structure different from the focusing adjustment movements due to current in the plurality of tracking coils interacting with the magnetic field of said ~~and a tilt coil, the laminate structure disposed within the gap; and~~

an objective lens connected to the laminate structure such that movement of the laminate structure results in a corresponding movement of the objective lens, the objective lens disposed outside of the gap in which the laminate structure is disposed

wherein ~~a tracking servo is~~ the tracking adjusting movements of the objective lens connected to the laminate structure are configured to be executed by supplying currents respectively to a plurality of the tracking coils due responsive to a sum of drive forces generated ~~in relative to~~ the plurality of focus tracking coils in response to respective currents supplied to the plurality of tracking coils interacting with the magnetic field of the gap; and

wherein ~~an~~ inclination adjustment of the objective lens is configured to be executed by generating a moment around a center of gravity of a movable part due to a difference between the drive forces to provide inclination adjusting movements different from the focus adjusting movements and the tracking adjusting movements.

Claim 28. (Previously Presented) The objective lens drive apparatus according to claim 27, wherein the magnetic circuit comprises pairs of magnets.

Claim 29. (Currently Amended) The objective lens drive apparatus according to claim 27, wherein the coil unit comprises a plurality of printed circuit boards, and the at least one focus coil and the plurality of tracking coil ~~is~~ coils are separately disposed on the printed circuit boards.

Claim 30. (Currently Amended) The objective lens drive apparatus according to claim 27, wherein the coil unit comprises a printed circuit board, and the at least one focus coil and the plurality of tracking coil ~~is~~ coils are mounted on the printed circuit board.

Claim 31. (Currently Amended) The objective lens drive apparatus according to claim 27, wherein the coil unit comprises only one focus coil and there are an even number of tracking coils, and the magnets are configured to be magnetized in two polarities in a focus direction.

Claims 32-41 (Canceled).

Claim 42. An objective lens drive apparatus configured to be used in an optical pickup, comprising:

a magnetic circuit comprising first and second magnets separated from one another by a single gap, the first and second magnets providing a magnetic field in said single gap;

a coil unit comprising a single laminate structure disposed within the single gap and including [[a]] at least one focus coil configured to provide focus adjusting movement of the

single laminate structure due to current in the at least one focus coil interacting with the magnetic field of said single gap, [[a]] at least one tracking coil configured to provide tracking adjusting movement of the single laminate structure different from the focusing adjustment movement due to current in the at least one tracking coil interacting with the magnetic field of said gap, and [[a]] at least one tilt coil configured to provide inclination adjusting tilting movement of the single laminate structure different from the focusing adjustment movement and the tracking adjustment movement due to current in the at least one tilt coil interacting with the magnetic field of said single~~[[,]] the laminate structure disposed within the gap; and~~

a lens[[,]] provided in a lens holder and connected with the single laminate structure~~configured to be adjusted in a focusing direction, a tracking direction, and a tilt direction by the magnetic circuit and coils, provided in a lens holder~~ moved therewith, the lens disposed outside of the gap.

Claims 43-48 (Canceled).

Claim 49. (Currently Amended) The objective lens drive apparatus according to claim 1, wherein the at least one focus, tilt, and tracking coils are disposed on a plurality of circuit boards, the plurality of circuit boards forming the laminate structure with one another.

Claim 50. (Canceled).

Claim 51. (Currently Amended) The objective lens drive apparatus according to claim 22, wherein the focus ~~[[,]] tilt, and tracking~~ coils and at least one tracking coil are disposed on

a plurality of circuit boards, the plurality of circuit boards forming the laminate structure with one another.

Claim 52. (Currently Amended) The objective lens drive apparatus according to claim 22, wherein only one laminate structure including the focus[[,]] ~~tracking, and tilt~~ coils and at least one tracking coil is disposed in the gap.

Claim 53. (Currently Amended) The objective lens drive apparatus according to claim 27, wherein the at least one focus coil[[,]] ~~tilt~~[[,]] and the tracking coils are disposed on a plurality of circuit boards, the plurality of circuit boards forming the laminate structure with one another.

Claim 54. (Currently Amended) The objective lens drive apparatus according to claim 27, wherein only one laminate structure including the at least one focus coil[[,]] and the tracking[[,]] ~~and tilt~~ coils is disposed in the gap.

Claim 55. (Currently Amended) The objective lens drive apparatus according to claim 42, wherein the at least one focus, tilt, and tracking coils are disposed on a plurality of circuit boards, the plurality of circuit boards forming the laminate structure with one another.

Claim 56. (Previously Presented) The objective lens drive apparatus according to claim 42, wherein only one laminate structure including the focus, tracking, and tilt coils is disposed in the gap.